

**Current Technology and Environment Information****CURRENT TECHNOLOGY AND ENVIRONMENT INFORMATION**

The City's Department of Communications and Technology ("ComTech") reviews and updates the standards of acceptable and supported computers, printers, servers, network equipment, database management systems, telephony equipment, and software on an on-going basis. The standards as of the issue date of this RFP are listed below.

1. The network protocol is TCP/IP.
2. Select models of Cisco brand routers: (800/1900/2900 ISR and 6500 Branch series), switches (2960C Campus LAN Compact series, 2960X Campus LAN Access series, and 6500-E Campus LAN Core/Distribution series), firewalls (ASA 5500-X NG series), and wireless access points (2600/3700 series).
3. Select models of Cisco voice and video network equipment are also standardized.
4. The local network topology is 10/100/1000 MB switched Ethernet, running on CAT6 twisted pair copper cabling, 50 um multimode or single mode fiber optic cable. The wide area/metro network has multiple connection methods, including owned/leased T1 services, Hybrid Fiber Copper/Transparent LAN Services (HFC/TLS), Fast Ethernet and Gigabit Ethernet services at various shaped bandwidths, and an OC-192 Institutional Network (I-Net).
5. The operating system for servers is Windows Server 2012 R2 (preferred) or Windows Server 2008 R2. All new servers must run the Windows 2012 R2 or 2008 R2 operating system as a virtual server following a virtualized philosophy using the City's VMware vSphere 5 environment unless there are technical reasons requiring dedicated hardware and exempted by the City's technical staff.
6. If agreed upon by the City's technical staff that a virtual server is not adequate, server hardware is HP Proliant DL360 or DL380 rack mount servers for dual processor server computing and HP DL580 rack mount servers for quad processor server computing.
7. All servers reside in one of the City's three data centers following a centralized philosophy unless there are technical reasons requiring servers to be installed at other facilities and exempted by the City's technical staff.
8. The server databases are Microsoft SQL Server 2014 (preferred) or Microsoft SQL Server 2012 SP2, or Microsoft SQL Express 2012 SP2 or higher. All new server databases must run the appropriate operating system as identified above, and may require dedicated server hardware, or operate and reside on a server shared with other SQL instances, or operate and reside on a virtual server.
9. The final configuration of all new servers and databases, including their physical and logical placement, are subject to the approval of the City's technical staff.
10. The anti-virus software is the most current version of Symantec Endpoint Protection for the Microsoft operating systems and Sophos for the Apple Macintosh operating systems. All new application and database servers, workstations, laptops, tablets, etc. are required to operate a copy of the appropriate anti-virus software.
11. Centralized Storage Area Network (SAN) storage is available and preferred when appropriate. It consists of an 8Gbps Fiber Channel SAN attached to an IBM XIV Storage Subsystem and used for all mission critical storage systems and VMware storage.
12. There is a centralized enterprise class backup system that is located approximately one mile outside of the City's main data center. This backup system uses the Avamar backup system to perform remote backups and storage every evening.
13. Virtual Private Network (VPN) connections will not be used to or from the City's network.

14. City standard for Web servers is Microsoft Internet Information Server (IIS) latest version.
15. No hardware-based licensing keys are acceptable (examples: dongles and USB licensing keys)
16. Application software must not require a user to be logged on to the desktop to run and operate. Application software must run as a service or similar technology.
17. Client/server application development environment is Visual Basic .Net.
18. The Web-enabled development standard is Visual Basic .Net; however, other application specific tools are used.
19. New desktop hardware and operating system software is:
  - a. Dell Optiplex 3010 small form factor Intel Core i5 3470 Processor (Quad Core, 6MB, 3.2GHz) w/Intel integrated graphic video, integrated Gigabit Ethernet network interface card, integrated sound card, 4GB DDR3 RAM and internal speakers
  - b. Windows 7 Professional SP1
  - c. 8X DVD-ROM
  - d. 19" Dell FP LCD Monitor
  - e. 250GB hard drive (7200 RPM)
20. New desktop application software is:
  - a. Microsoft Office 2013 Professional
  - b. Internet Explorer 11.0 for Web-browser capabilities (there are some earlier versions for application compatibility).
21. New laptop hardware and operating system software is:
  - a. Dell Latitude E6430 with Intel Core i5-3230M (2.60Ghz), w/Intel HD Graphics 4000 video, integrated Intel Gigabit Ethernet network interface card, integrated sound card, 4.0 GB DDR3-1333MHz SDRAM, and built-in speakers
  - b. Windows 7 Professional SP1
  - c. 8X DVD-ROM
  - d. 14.0" Wide Screen anti-glare LED-backlit screen
  - e. 320 GB hard drive (7200 RPM)
  - f. Intel Centrino Advanced-N 6205 internal wireless adapter
22. New laptop application software is:
  - a. Microsoft Office 2013 Professional Suite
  - b. Internet Explorer 11.0 for Web-browser capabilities (there are some earlier versions for application compatibility).
23. Two current ruggedized laptop hardware and operating software standards:
  - a. Getac F110 Tablet with Intel i5-4300U 1.9GHz processor, 3MB cache, 8GB DDR3 RAM, 128GB SSD, 800 NITS LumiBond touchscreen display, dual batteries, 802.11AC wireless, Bluetooth, 4G LTE (Verizon/AT&T), tri pass-thru (WWAN/WLAN/GPS), GPS

- i. Windows 7 Professional SP1
    - ii. Screen protector with AG&AR technology
    - iii. iKey keyboard
    - iv. F110 bracket with hand strap
    - v. Tri pass-thru vehicle dock & port replication
    - vi. LIND 12-32V DC vehicle adapter/charger
    - vii. LIND power supply mount
    - viii. Quick release slide for keyboard mounting plate
    - ix. Monitor and keyboard mount combination
  - b. Panasonic CF-30 with Intel Core 2 Duo – 1.60 GHz L9300, 13.3" touch screen XGA display, 10/100/1000 integrated Ethernet, integrated sound card, 4 GB RAM and internal speakers
    - i. Windows 7 Professional SP1
    - ii. DVD /CD-RW combo drive
    - iii. 160 GB hard drive (5200 RPM)
    - iv. 802.11 a/b/g wireless Ethernet adapter
    - v. Dual RF pass-through Antenna Connector
    - vi. Integrated GPS
    - vii. Verizon EVDO wireless capable
    - viii. Backlit keyboard
    - ix. AC Panasonic Port Replicator (CF-VEB272A2W)
    - x. Vehicle dock with power supply
    - xi. Mounting plate
24. Current IVR systems:
- a. Teleworks eVision Admin 5.5.8.0, eVision Server 5.5.66, 24 Ports
  - b. VoicePermits (Selectron Technologies Inc.)
25. PBX Telephone System software is Avaya:
- At the time of installation, the Vendor shall conform to reasonable upgrades to the standards for network operating systems, communications system, databases, new desktop hardware and operating system software, and new desktop application software.
26. Communications:
- a. All wired devices are located in facilities that are connected to the network on at least a cable modem using HFC/TLS services with minimum bandwidths of 1.5Mb upstream and 1.5Mb downstream and all are managed by the City. All others use a variety of communication bandwidths ranging from T-1 to OC-192 capacity.
  - b. Wi-Fi wireless devices use the IEEE 802.11 b/g/n/ac standards.

- c. Broadband wireless devices use the 3G or 4G Verizon Wireless CDMA standards. Unless specifically exempted by the City's technical staff, only imbedded 3G or 4G Verizon Wireless CDMA modems are permitted on mobile devices that will operate on the City's private Verizon Wireless provided mobile network.

## 27. Cable

- a. Voice- Category 6 for DATA / 5e or higher for Voice UTP (unshielded twisted pair)
  - i. Frequency- 100 MHz
  - ii. Conductors - 4 pair - 24 AWG Solid
  - iii. Color – Blue (preferred)
- b. Data- Category 6 UTP (unshielded twisted pair)
  - i. Frequency - 250 MHz
  - ii. Conductors - 4 pair - 24 AWG Solid
  - iii. Speed rating – 100 Mbps plus.
  - iv. Color – Yellow (required)
- c. CATV- RG6 Coax with greater than or equal to 90% braid.
- d. Fiber
  - i. Multimode 50-micron with ST connectors
  - ii. Multimode OM3 with LC connectors
  - iii. Singlemode – 8.5 micron with SC connectors
  - iv. Other specifications – per job requirements.

## 28. Connectors

- e. Office termination- OCC 110 Connect System - 568B
  - i. Voice - Cat 5e modular jack, OCC# UMJEFSB-XX\* XX\* = 01 – Ivory or match faceplate or Cat 6 modular jack, OCC # UMJA6-XX\* XX\* = 01 – White bezel or Leviton 61110-RL6.
  - ii. Data - Cat 6 modular jack, OCC # UMJA6-XX\* XX\* = 08 – Orange bezel or Leviton 61110-RL6.
  - iii. Faceplate - 2 port - OCC # FP02-XX\* or Leviton 41080-2IP; 4 port - OCC # FP04-XX\* or Leviton 41080-4IP.

***\* XX denotes color 00= Electrical Ivory 01= Office White***
- f. Telco closet termination- 3/4" plywood (painted) base `
  - i. Voice - wall mounted 110 blocks
  - ii. Data Racks:
    - 1) 19" equipment racks (to be determined by job)
    - 2) Hubbell RE4x wall mount cabinet

- 3) Modular jack patch panel Cat 6(568B)
  - 24 port -OCC# DCC2488/110SIX
  - 48 port - OCC # DCC4888/110SIX
  - 24 port – Leviton # 49256-H24
  - 48 port – Leviton # 49256-H48
- 4) Cable management panels- OCC # CM302
  - a. CATV – RG6 “F” connectors

